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09/715,753	11/17/2000	Jerry L. Mizell	NORT0080US(12419RRUS01U)	6962

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ART UNIT	PAPER NUMBER
2663	2

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		Applicant(s)	
Office Action Summary	09/715,753		MIZELL ET AL.	
	Examiner		Art Unit	
	Christine Ng		2663	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _17 November 2000_.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
      closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-44_ is/are pending in the application.
      4a) Of the above claim(s) _28-36_ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1,4-9,11,12,14-24,37,39-42 and 44_ is/are rejected.
7) ☒ Claim(s) _2,3,10,13,25-27,38 and 43_ is/are objected to.
8) ☒ Claim(s) _28-36_ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _17 November 2000_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
      Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
      Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
      a) ☐ All   b) ☐ Some * c) ☐ None of:
        1. ☐ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____.
        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
              application from the International Bureau (PCT Rule 17.2(a)).
      * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
      Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
      Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   Restriction to one of the following inventions is required under 35 U.S.C. 121:

I.   Claims 1-14, 15-27 and 37-44, drawn to a method of choosing one of a

plurality of paths between a base station and a system controller for

communication with a mobile station, classified in class 370, subclass 338

and 401.

II.   Claims 28-29, drawn to a method of disabling an address and redirecting

data between a base station and a system controller, classified in class

370, subclass 329 and 465.

III.   Claims 30-35, drawn to a method of messaging between a originating

device and a destination device to determine a communication port on the

destination device to receive data, classified in class 370, subclass 329

and 465.

IV.   Claim 36, drawn to a method selecting a path between two nodes based

on a first address from the first node and a second address from the

second node, classified in class 370, subclass 329 and 465.

2.   Inventions in claims 1-14, 15-27 and 37-44, claims 28-29, claims 30-35 and claim

36 are unrelated. Inventions are unrelated if it can be shown that they are not disclosed

as capable of use together and they have different modes of operation, different

functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the

different inventions are grouped according to their distinct functions. Claims 1-14, 15-27

and 37-44 refer to a method of choosing one of a plurality of paths between a base

station and a system controller for communication with a mobile station. Claims 28-29 refer to a method of disabling an address and redirecting subsequent data between a base station and a system controller. Claims 30-35 refer to a method of messaging between a originating device and a destination device to determine a communication port on the destination device to receive data in an IP-based system. Claim 36 refers to a method of selecting a path between two nodes based on a first address from the first node and a second address from the second node for communication with a mobile system.

3.   Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4.   During a telephone conversation with Dan Hu on April 5, 2004 a provisional election was made without traverse to prosecute the invention of choosing one of a plurality of paths between a base station and a system controller for communication with a mobile station, claims 1-14, 15-27 and 37-44. Affirmation of this election must be made by applicant in replying to this Office action. Claims 28-29, 30-35 and 36 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.   Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

Claim 15 recites the limitation "the node" in line 10 of the claim. There is

insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1 and 37 are rejected under 35 U.S.C. 102(e) as being unpatentable by

U.S. Patent No. 6,373,828 to Stewart et al.

Stewart et al discloses in Figure 4 a method of establishing communications

between a base station (Element 306) and a system controller (MSC, Element 317).

The method comprises identifying a plurality of paths (Element 401) in the network,

each path (Element 401) defined by an address (CIC number) in the landline switch

(Element 316) and an address (trunk group and member number) in the system

controller (MSC, Element 317). The method also comprises selecting one of the

plurality of paths (Element 401) to communicate data associated with a given mobile

station (Element 116). One of the plurality of trunks 401 is chosen to carry user data

traffic to the mobile station (Element 116); the chosen trunk is represented by the CIC

number at the landline switch end (Element 316) and by the corresponding trunk group and member number at the MSC end (Element 317). The landline switch (Element 316) facilitates the establishment of a voice path between the base station (Element 306) and the MSC (Element 317). Refer to Column 8, lines 59-66; Column 9, lines 13-22 and lines 36-47; and Column 10, lines 9-50.

Stewart et al do not disclose that the path defined by an address (CIC number) is in the base station (Element 306), but instead discloses that address (CIC number) is in the landline switch (Element 316). However, in typical wireless communication systems, the base station is directly connected to the MSC, with the MSC providing an interface to external networks such as PSTN and the base station providing an interface for transferring data and control signals between mobile stations and the MSC. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Stewart et al to include that the address is in the base station (Element 306) rather than the landline switch (Element 316). One would have been motivated to do so since the base station is usually directly connected to the MSC in order for the base station to provide an interface between mobile stations it serves to the MSC.

9.   Claims 4, 7, 9, 11, 15, 17, 39, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,373,828 to Stewart et al in view of U.S. Patent No. 6,469,994 to Ueda.

Referring to claims 4 and 39, Stewart et al disclose that selecting one of the plurality of paths (Element 401) comprises selecting one of a plurality of virtual

connections (Element 401), with each connection (Element 401) based on a base

station address (CIC number) and a system controller address (member number).

Refer to the rejection of claims 1 and 37.

Stewart et al do not disclose that the network between the base station and the

system controller is a packet-switched, connectionless network.

Ueda discloses in Figure 1 a plurality of paths (shared channels) over a packet-

switched, connectionless network between a base station (Element 20) and a packet

switching office (Element 30). Refer to Column 1, lines 21-34. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to

modify the invention of Stewart et al to include that the network is a packet-switched

connectionless network. One would have been motivated to do so because a packet-

switched connectionless network, as opposed to a circuit-switched connection-oriented

network, allows the system to save resources since a channel in a circuit-switched

network is dedicated to a user for the full length of the connection, regardless of

whether or not the user is transmitting data.

Referring to claims 7 and 41, Stewart et al do not disclose that that method

further comprises selecting another path by sending a change-route request.

Ueda discloses in Figure 5 that the method further comprises selecting another

path by sending a change-route request (Step S3). When the packet data transferred

from a specific terminal is greater than a threshold, the base station "requests for the

packet switching office 30 to set one of the shared channel into the leased mode and to

assign it to that terminal" (Column 5, lines 58-63). Then the packet switching office 30

determines whether or not the shared channel can be set into leased mode. Refer to Column 6, lines 7-10. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the method comprises selecting another path by sending a change-route request; the motivation being that this allows the system to determine whether or not it has enough resources to allow the mobile terminal to transfer data on another route before the mobile terminal begins transmitting data on the new path.

Referring to claim 9, Stewart et al do not disclose that selecting another path by sending the change-route request is part of an explicit path negotiation.

Ueda discloses in Figure 5 that the change-route request is sent explicitly from the controller of the base station (Element 20) to the packet switching office (Element 30). This allows the packet switching office (Element 30) to determine whether or not one of the shared channels is allowed to be set to leased mode so that the terminal requesting a different path can use the new channel to transmit data. Refer to Column 5, line 58 to Column 6, line 10. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that selecting another path by sending a change-route request is part of an explicit path negotiation; the motivation being that this allows the system to send messages between the components to determine whether or not it has enough resources to allow the mobile terminal to transfer data on another route before the mobile terminal begins transmitting data on the new path.

Referring to claims 11 and 42, Stewart et al do not disclose sending the change-route request comprises sending a request containing an identifier of the mobile station.

Ueda discloses in Figure 5 that sending the change-route request comprises sending a request containing an identifier of the mobile station. "To each of packet data transferred from the terminals, a user ID to indicate each property is added" (Column 5, lines 54-55). The base station (Element 20) requests for the packet switching office 30 to set one of the shared channels into the leased mode and to assign it to terminal 10c, the terminal that is requesting a route change. Refer to Column 5, line 58 to Column 6, line 2. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include sending the change-route request comprises sending a request containing an identifier of the mobile station; the motivation being that the module receiving the change-route request must have some way of identifying which terminal needs to change routes so that it can assign the channel accordingly.

Referring to claim 15, Stewart et al discloses in Figure 4 a first system for use in a mobile communications network. The system comprises a communications module (landline end office, Element 311) coupled to a second system, the first system being a base station (Element 306) and the second system being a system controller (MSC, Element 317). In order to establish a voice path between the base station 306 and the MSC 317, one of a plurality of trunks 401 is chosen between the landline end office 311 and the MSC 317. Refer to Column 8, lines 59-66. The system also comprises a storage element (landline trunk group table, Element 404) containing one or more first addresses (CIC numbers) associated with the first system (base station, Element 306).

Landline trunk group table 404 includes trunk parameters such as "trunk group types,

the number of trunks in plurality of trunks 401, their associated CIC numbers, ..."

(Column 9, lines 20-21). The system also comprises a control module (landline switch,

Element 316) adapted to select one of the plural paths, each path defined by one

address (CIC number) associated with the first system (base station, Element 306) and

one address (trunk group and member number) associated with the node (MSC,

Element 316). "Landline switch 316 uses landline trunk group table 404 to select one of

the trunks from plurality of trunks 401 to carry user data traffic, ..." (Column 10, lines 13-

15). Each trunk is represented by a CIC number at the landline switch end 316 and a

trunk group and member number at the MSC end 317. Refer to Column 8, lines 59-66.

Stewart et al does not disclose that the system is adapted to communicate over a

packet-switched network.

Ueda discloses in Figure 1 a plurality of paths (shared channels) over a packet-

switched (connectionless) network between a base station (Element 20) and a packet

switching office (Element 30). Refer to Column 1, lines 21-34. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to

modify the invention of Stewart et al to include that the network is a packet-switched

connectionless network. One would have been motivated to do so since a packet-

switched connectionless network, as opposed to a circuit-switched connection-oriented

network, allows the system to save resources since a channel in circuit-switched

network is dedicated to a user for the full length of the connection, regardless of

whether or not the user is transmitting data.

Referring to claim 17, Stewart et al discloses that the system comprises the base

station (Element 306).

10.   Claims 5, 14, 40 and 44 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 6,373,828 to Stewart et al in view of U.S. Patent No.

5,487,065 to Acampora et al.

Referring to claims 5 and 40, Stewart et al do not disclose that the method

comprises selecting another path by sending a message from another source address.

Acampora et al disclose in Figure 4 that selecting another path comprises

sending a message from another source address (VCI). The "mobile user initiates the

rerouting as the result of its handoff by changing the VCI of its packets". "By sending

packets with VCIs associated to a specific base station, it initiates the rerouting of its

connections to that base station". Refer to Column 7, lines 3-36. Therefore, it would

have been obvious to one of ordinary skill in the art at the time the invention was made

to include sending a message from another source address; the motivation being that

using this method, the rerouting operation can be performed "without the use of a

centralized call processor in a distributed manner" (Column 7, lines 34-35), since the

mobile station initiates rerouting.

Referring to claims 14 and 44, Stewart et al do not disclose that the method

further comprises disabling an address; and sending a change-route request containing

the disabled address to change a path for each mobile station assigned a path defined

by the disabled address.

Acampora et al disclose in Figure 6 that the method further comprises disabling

an address (first and third rows of table 114); and sending a change-route request

(control message) containing the disabled address (first and third rows of table 114) to

change a path (switch from path 120 to 121) for each mobile station assigned a path

defined by the disabled address (first and third rows of table 114). The control message

tells the switch to enable connection 121 (enable second and fourth rows of table 114)

and disable connection 120 (disable first and third rows of table 114). Refer to Column

9, lines 20-33. Therefore, it would have been obvious to one of ordinary skill in the art

at the time the invention was made to include the method further comprises disabling an

address; and sending a change-route request containing the disabled address to

change a path for each mobile station assigned a path defined by the disabled address;

the motivation being that this facilities rerouting of data packets through the use of a

single control message.

11.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,373,828 to Stewart et al in view of U.S. Patent No. 5,487,065 to Acampora

et al, and in further view of U.S. Patent No. 6,711,143 to Balazinski et al.

Stewart et al and Acampora et al do not disclose the sending the message

comprises sending a UNITDATA message.

Balazinski et al disclose that messaging can be performed by using a

UNITDATA PDU. Refer to Column 5, lines 53-56. Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to include

that sending the message comprises sending a UNITDATA message; the motivation

being that UNITDATA is a standard messaging protocol.

12.   Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,373,828 to Stewart et al in view of U.S. Patent No. 6,469,994 to Ueda, and

in further view of U.S. Patent No. 5,974,036 to Acharya et al.

        Stewart et al do not disclose that the change-route request comprising sending a

GPRS NS-CHANGEROUTE request.

        Acharya et al does not specifically disclose a GPRS NS-CHANGEROUTE

request. However, Acharya et al disclose that a base station sends a RT_CHANGE

signal to a first switch to establish a new connection to another switch during handover.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to include that the change-route request comprises sending a

GPRS NS-CHANGEROUTE request; the motivation being that there needs to be some

type of signal to notify the system performing the rerouting of when rerouting is needed.

13.   Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,373,828 to Stewart et al in view of U.S. Patent No. 6,469,994 to Ueda, and

in further view of U.S. Patent No. 6,603,738 to Kari et al.

        Stewart et al and Ueda do not disclose that the identifier comprises a GPRS

temporary logical link identifier.

        Kari et al disclose that in a GPRS system, a TLLI use inserted into the header of

a frame, so that the system would know which mobile station sent the frame. When a

mobile station registers in a GPRS system, the network gives the mobile station a TLLI

identity for use during the connection. After the connection, the same TLLI identity is

assigned to another mobile station. Refer to Column 2, lines 1-10. Therefore, it would

have been obvious to one of ordinary skill in the art at the time the invention was made

to include the identifier comprises a GPRS temporary logical link identifier; the

motivation being a mobile station can maintain its own identity in a GPRS network to

facilitate data routing and after the connection between the GPRS system and the

mobile station is over, the TLLI number can be assigned to another mobile station.

14.   Claims 16 and 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent No. 6,373,828 to Stewart et al in view of U.S. Patent No 6,469,994 to

Ueda, and in further view of U.S. Publication No. 2001/0033563 to Niemela et al.

Referring to claim 16, Stewart et al and Ueda do not disclose that the

communications module is adapted to communicate over a Gb interface provided in the

packet-switched network.

Niemela et al disclose in Figure 2 a system for establishing virtual connections

(Elements 140-146) between a base station (Element 122) and a SGSN (Element 124)

over a Gb interface in a packet-switched (GPRS) network. Refer to Page 4, Paragraph

0033. Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to include that the communications module is

communicating over a Gb interface in the packet-switched network; the motivation being

that current Gb interface utilizes the frame relay protocol, which limits flexibility and

reliability. Replacing the frame relay protocol with a packet-switched protocol (IP) can

provide more efficient, flexible and reliable data communications" (Page 1, Paragraphs 0008-0009).

Referring to claim 18, Stewart et al and Ueda do not disclose that the system controller is a serving GPRS support node.

Niemela et al disclose in Figure 2 a system for establishing a plurality of virtual connections (Elements 140-146) between a base station (Element 122) and a SGSN (Element 124) over a Gb interface. Refer to Page 4, Paragraph 0033. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the system controller is a serving GPRS support node; the motivation being that in a GPRS network, the SGSN communicates with the base station to provide data traffic to mobile users and also to store subscriber and location information concerning the mobile users.

Referring to claim 19, Stewart et al and Ueda do not disclose that each path comprises a virtual connection.

Niemela et al disclose in Figure 2 a system for establishing a plurality of virtual connections (NS-VC, Elements 140-146) between a base station (Element 122) and a SGSN (Element 124) over a Gb interface. Refer to Page 4, Paragraph 0033. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that each path comprises a virtual connection; the motivation being that in a GPRS network, the NS-VC is a virtual connection that carries data traffic from a base station to the SGSN. Refer to Page 3, Paragraph 0027.

Referring to claim 20, Stewart et al and Ueda do not disclose that each address comprises an Internet Protocol address.

Niemela et al disclose "IP provides a source and destination address associated with a NSE of the BSS providing service to a BVC and the NSE of the SGSN providing service to a BVC" (Page 3, Paragraph 0029). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that each address comprises an Internet Protocol address, the motivation being that IP is a packet-switched connectionless protocol that saves resources by not requiring a direct connection between source and destination.

Referring to claim 21, Stewart et al and Ueda do not disclose that each path is further defined by a User Data Protocol port of the first system and a User Datagram Protocol port of the second system.

Niemela et al disclose "UDP provides a UDP port associated with NS-VC of an NS-VL" and "provides a destination and source UDP port associated with a NS-VC" (Page 3, Paragraph 0029). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that each path is further defined by a User Data Protocol port of the first system and a User Datagram Protocol port of the second system, the motivation being that UDP is a connectionless protocol that is used with IP that does not provide the service of sequencing the packets of data, thereby saving processing time. UDP also provides port numbers to help distinguish different users.

Referring to claim 22, Stewart et al and Ueda do not disclose that the control module comprises a load sharing task to select different paths for different mobile stations.

Niemela et al disclose that a network service control "distributes data among available NS-VC", "provides blocking procedure used by the NSC to inform a peer NSE when an NS-VC becomes unavailable for data transmission", and an unblocking procedure to "remove the blocking restriction after the NS-VC becomes available" (Page 3, Paragraph 0028). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the control module comprises a load sharing task to select different paths for different mobile stations, the motivation being that this prevents congestion of any one virtual connection.

Referring to claim 23, Stewart et al and Ueda do not disclose that the system comprises a GPRS Network Service layer, the Network Service layer comprising the control module.

Niemela et al in Figure 1 a GPRS Network Service layer (network service control layer) that provides load sharing and NS-VC management. Refer to Page 3, Paragraphs 0028-0029. Therefore, it would have been obvious to one of ordinary skill in the art to include the system comprises a GPRS Network Service layer; the motivation being that there needs to be a protocol to control the distribution of data among NS-VC in order to avoid congestion and ensure fair load.

Referring to claim 24, Stewart et al and Ueda do not disclose that the system further comprises an upper layer, the Network Service layer exchanging primitives with the upper layer.

Niemela et al in Figure 1 that the system further comprises an upper layer (BSSGP), the Network Service layer (network service control layer) exchanging primitives with the upper layer (BSSGP). The NSEI from the network service control layer and the BVCI from the BSSGP layer uniquely identifies a BVC, over which peer-to-peer communication between remote BSSGP is performed. Refer to Page 3, Paragraphs 0026-0028. Therefore, it would have been obvious to one of ordinary skill in the art to include that the system further comprises an upper layer, the Network Service layer exchanging primitives with the upper layer; the motivation being that the BSSGP and the Network Service layer communicate to provide a path for data to be transmitted, the BSSGP establishing a peer-to-peer communication channel (BVC) and the Network Service layer defining and controlling the NS-VC.

Allowable Subject Matter

15.   Claims 2, 3, 10, 13, 25-27, 38 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (703) 305-8395. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Nguyen Chau can be reached on (703) 308-5340. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng
April 13, 2004

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600